July 20, 2001

To: Members, Committee on Energy and Natural Resources
From: Jeff Bingaman, Chairman
Subject: White Paper on Electricity Legislation

Summary

There are many lessons that can be drawn from the recent and continuing electricity crisis in California and the West. The clearest one is that the market institutions that have developed are not adequate to the task. If we are to relieve the current problems in that region and prevent their appearance in other regions it is essential that the structural defects in the market be cured.

The Federal Energy Regulatory Commission (FERC) and state regulators currently have some tools to relieve these problems. Many of the structural defects in the market, however, are either beyond the jurisdiction of either FERC or state regulators, or are intractable for other reasons, both political and economic.

Congress has a clear duty to address this situation as part of comprehensive energy legislation. Our task must be to look at the economic foundations upon which this industry is based, to review the market institutions that are developing, and to assess the adequacy of the legal and regulatory institutions that are in place to ensure that these markets function properly. Such an assessment must lead to a legislative solution that will match the regulatory structure to the market institutions that they are intended to govern and give adequate authority to resolve market defects, without interfering unduly in those markets. This Committee has laid the foundation for much of this work in previous Congresses. We must now move forward with a legislative solution. To leave electricity legislation for another day would be to ensure that the problems faced now in the West will be replicated across the country.

The business of supplying electricity has changed. So must the regulatory and legal framework within which it operates now change. Those changes must reflect the realities of the market. In order to understand how laws regulating electricity should be changed, it is necessary to understand why the system worked the way that it did, and what has changed to make it necessary to change the laws governing that system.

This paper contains a short summary of the history of the industry and its legal structure, a discussion of the developments that necessitate the change of that legal structure, and an outline of the elements that I believe are essential to a legislative solution for electricity that is in the broad national interest.

I plan to use this outline as a framework for my questions in our electricity hearings next week. I encourage you to provide me with your thoughts and suggestions on this outline and any other elements of electricity legislation that you believe should be treated in the comprehensive energy legislation we are about to mark up.

A Brief History

Electricity has been supplied in the U.S. by regulated monopolies for nearly a century. Vertically integrated utilities, with state-granted monopoly franchises, have sold electricity that they generated, over wires that they own, to customers to whom they have the exclusive right to sell. The legal structure for regulation of this industry has been based on this framework, both at the federal and the state levels.
The reason that the normal pattern of business–customer choice in a competitive market–has not been followed in the electric industry is because with the technologies that have been available, a monopoly could sell power more cheaply and efficiently than a multiplicity of competitors.

Samuel Insull, Thomas Edison's personal secretary and founder of Commonwealth Edison in Chicago, developed some basic understandings at the beginning of the last century that set the mold for the sale of electricity. The multiplicity of suppliers in Chicago meant duplication of facilities that raised costs. Many suppliers, with separate sets of distribution wires, and separate small generators could not take advantage of the economies of scale that would result from allowing a single seller to serve the city. Insull convinced the city's leaders to grant him a monopoly to sell power. In return he would serve all customers and allow the city to set his rates, as long as they assured him of a reasonable return on his investment.

Thus was born the regulatory compact that became the pattern for electric companies throughout the United States. States and cities granted monopoly franchises. Utilities developed their own generation resources, built distribution systems and sold electricity to their customers under these exclusive franchise rights. States developed public utility commissions to regulate rates.

In the 1920s, this system began to get out of control. Large holding companies that owned many utilities developed. The regulatory systems developed to control the electric monopolies were soon unable to function adequately. Since corporate structures were so complicated, and holding companies operayed in many states, local or state public utility commissions were unable to keep track of revenues, which could be shifted from one company to another, or to a parent holding company in another state.

To further complicate matters, it became clear that states did not have jurisdiction to control wholesale electricity transactions across state lines. The Supreme Court, in a case involving the sales from a Rhode Island utility to Attleboro Steam and Electric Company in Massachusetts, ruled that states could not regulate interstate sales of electricity.

Abuses in the electric industry were rampant. Assets were shifted from state to state. Sales were unregulated. Stocks were peddled from door to door. A complex and mostly unseen structure of financing was funding the whole tottering structure. Retail customers, since they were captive customers of the franchise monopolies, had no protection from these abuses.

When the Roosevelt administration came to power in 1933, among its first initiatives were responses to the abuses that had created the electricity debacle. In 1935, legislation was signed into law that was aimed at these problems. The Public Utilities Act of 1935 had two titles, the Public Utility Holding Company Act (PUHCA) and the Federal Power Act. The former was intended to deal with corporate structure abuses and the latter to regulate transactions in interstate commerce.

PUHCA broke up the industry into manageable chunks and focused it on its core business--the provision of monopoly electricity service--by requiring utilities either to operate primarily in a single state or to be regulated stringently at the federal level by the Securities and Exchange Commission (SEC). Utilities were also forbidden to engage in businesses that were not directly related to their monopoly electric service without explicit approval by the SEC. The sprawling empires of interconnected corporations owning electric utilities were broken up. Companies were required to choose between their other businesses and the electric industry.

The Federal Power Act gave the Federal Power Commission authority to regulate transmission of electricity in interstate commerce, wholesale rates for electricity, dispositions of utility assets–primarily mergers–and certification of hydro-electric facilities. Government owned facilities were not subject to regulation. The Commission was explicitly denied jurisdiction over generation facilities and over distribution in intrastate commerce.

With the passage of the Public Utilities Act, the framework for the sale of electricity was set. Regulated monopolies sold electricity to captive customers and were protected from monopoly abuse by an overlapping framework of regulation at the state and federal levels. Rates for electricity, both at the state level for retail sales and at the federal level for wholesale sales, were set by regulators and based on the costs to the utilities to build, maintain and operate generation, distribution and transmission facilities plus a reasonable return on investment. As technological developments furthered the economies of scale and scope on which this industry's efficiency depended, electric rates fell. In fact, electric rates, in real dollar terms, declined from the turn of the century until the late 1960s.

In the late 1960s and early 1970s, however, things began to change. Utilities, which had seen steady rapid growth of demand throughout the first half of the century, built for a continuation of that level of demand growth. Plants grew larger and larger. It is certain that the oil crisis of the early seventies forced fuel prices up, causing reductions in demand. Reduced demand left utilities with excess capacity. Customers had to pay for that excess. For the first time in history, electricity prices began to rise. Many public utility commissions would not allow utilities to recover the cost of building excess capacity from their consumers.

At about this time, technological developments began to change the underlying economics of the utility monopoly structure. The economies of scale and scope that had lead to the creation of utility monopolies began to change. Before this time large central station coal plants were the most efficient way to produce electricity. Natural gas generators had been expensive and inefficient. Development of new combustion turbines that burned natural gas far more efficiently and at the same time were far less expensive to build meant that small gas plants could compete with large coal plants. Technologies of transmission meant that electricity could be shipped for far greater distances than in the past. New switching technologies and computerization of the control systems meant that regional transmission grids were possible.

The first legislative response to these technological and economic changes was the Public Utility Regulatory Policies Act of 1978 (PURPA). That law created the first non-utility generators. In order to encourage alternative generation resources, such as wind, solar, biomass and cogeneration, PURPA freed these types of generators from the restrictions of PUHCA and required utilities to buy electricity from them at rates equal to the cost avoided for the construction of new facilities, as determined by state regulators.

The result was a fairly gradual change in the way new resources were acquired. From the middle of the 1980s through the middle of the 1990s, over half of the new generation that came on line in the U.S. was from these non-utility generators. The wholesale electricity business was no longer the exclusive province of utility monopolies.

In 1992, Congress, seeing the success of the non-monopoly generation sector, changed the law to further allow development of a competitive wholesale electricity industry. The Energy Policy Act of 1992 (EPACT) exempted generators who sold exclusively at wholesale from PUHCA. It also gave FERC (the successor organization to the Federal Power Commission) the authority to require utilities to allow their competitors to use their transmission lines to sell electricity. For the first time ever, wholesale buyers of electricity could shop freely.

Recent Developments

Changes since the passage of EPACT have been rapid and dramatic. Today utilities no longer build generation for their sales to their retail customers, but buy those supplies from

the wholesale market. Some states have removed the restrictions that require retail monopolies, and allow their customers to pick their own generation suppliers. Other states have begun the process that will lead to dependence on competitive retail markets. Supplies of electricity depend to a greater degree than ever before on regional market institutions. Virtually all wholesale electric rates are based on the market, and not on cost of service.

The FERC has implemented the changes in the law primarily through two major rules, Order No. 888 and Order No. 2000. Both orders deal with the transmission system and its uses for competitive sales of electricity. Order No. 888, issued in 1996, requires all jurisdictional owners of transmission to file tariffs stating the rates, terms and conditions for use of their transmission systems by others buyers and sellers. Those rates, terms and conditions must be comparable to those that the utility gives to itself and its affiliates. This order also encourages the development of independent system operators of the transmission system. Order No. 2000 extended this encouragement. This order required all jurisdictional utilities to file proposals to turn control of their transmission facilities over to independent regional transmission organizations (RTOs) or to explain why they were not doing so by January of 2001.

All utilities have complied, but not all proposals have been found to be acceptable to the Commission. FERC has issued orders in many of the filings, either giving conditional approval, or rejecting the filings as not meeting the characteristic and functions of the Order.

The thrust of these orders comes from the Commission's understanding that a competitive market that will produce just and reasonable rates for electricity cannot exist until the essential facilities for trade in electricity, i.e., the transmission system, is operated and controlled on a regional basis, and by entities who have no vested interest in outcomes in the generation market and so have no incentive to manipulate the use of the transmission system for the benefit of their generation affiliates.

The transition to a competitive industry is well under way. However, not all has been smooth. The last few years have seen severe price spikes in the Midwest and South. There is a clear and pressing crisis in prices and supply in the West and particularly in California. The North American Electric Reliability Council reports that there may be problems with prices and supply in New York, New England and the Central South. They also report that there are serious transmission constraints that may threaten reliability and supply in the West and the Central South. The institutions on which the country now relies for delivery of affordable, dependable electricity service are showing the strain of adapting to the new market circumstances.

A Legislative Proposal for the Committee on Energy and Natural Resources

To meet the challenges of the new realities of electricity markets, Congress must make some important legislative changes. A balanced and comprehensive, rather than a piecemeal, solution is imperative. These changes that I believe are needed can be grouped under five primary headings: 1. Transmission Jurisdiction; 2. Reliability; 3. Rates and Market Power; 4. Regional Planning and Siting; 5. Market Transparency Rules. These provisions should be complemented by appropriate changes to the tax code to allow a transition to a modern transmission grid.

1. Transmission Jurisdiction

Congress should clarify that FERC has jurisdiction over all transmission, whether bundled or unbundled. Once jurisdiction has been clarified, the Commission can use its existing legal authority determine which facilities are transmission in interstate commerce and which are distribution facilities and thus state jurisdictional.

FERC jurisdiction should be extended to public, cooperative and federal utilities. Such jurisdiction should not extend to setting transmission rates for these entities, but should require that rates set by these transmitting utilities should be comparable to those that the public power utilities charge to themselves.

Legislation should affirm FERC's authority to order utilities to join regional transmission organizations.

Interconnection rules should be clarified in order to ensure that new sources of generation are able to interconnect to the transmission system.

2. Reliability

Legislation should authorize a system for assuring the reliability of the grid that is mandatory, that requires sanctions and penalties for failure to comply with the rules that institutions for that purpose develop, and that is subject to federal oversight.

3. Rates and Market Power

Legislation should require the FERC to promote competitive markets.

Legislation could require FERC to, where markets are depended on to set rates, ensure that those markets are workably competitive. A slightly more prescriptive formulation could authorize the Commission to allow market-based rates for transactions that are entered into freely by participants in a workably competitive market, or rates that result from market institutions such as power exchanges or other bid mechanisms. Where such workably competitive markets do not exist, the Commission should take such actions as are otherwise consistent with its authority that it deems necessary to foster competition.

All sellers into such markets should be clearly subject to market rules and market mitigation measures ordered by the Commission. It should be made clear that normal transactions, not into market-based-rate setting institutions, by public power entities should continue to be non-jurisdictional.

Legislation should also clarify that the Commission may take into account in assuring just and reasonable market-based rates the effect of demand response mechanisms on those rates.

4. Regional Planning and Siting

A national transmission grid is a necessity, but cannot occur without a new approach to transmission planning, expansion, and siting. Federal eminent domain, by itself, is not likely to lead to an effective approach to meeting this need. What is needed is to use federal eminent domain as a backstop to a more cooperative, regionally based approach to transmission and siting issues.

Legislation should authorize regional regulatory compacts that are charged with exercising jurisdiction over transmission planning, expansion and siting. In this context, it would be necessary to grant FERC siting authority, but allow it to cede such authority to appropriately constituted regional entities.

A more extensive authority for regional entities would be to allow such bodies to exercise all or some jurisdiction previously exercised by states, but that, by reason of the regionality of markets, would be in danger of being preempted by the FERC. Such other authorities might include jurisdiction over regional reserve requirements, maintenance requirements and market monitoring functions.

PUHCA protections should be replaced by giving FERC jurisdiction over mergers of holding companies that own utilities and over acquisitions of generation assets.

5. Market Transparency Rules

Legislation must ensure transparent information on market transactions and should grant clear authority to the Energy Information Administration and the FERC to collect and publish appropriate data, while protecting proprietary information.

Other Provisions

A balanced and comprehensive legislative solution should also:

- Repeal PUHCA, but only if FERC is given enhanced authority to address market power problems, and both FERC and the states are given greater access to the books and records of holding companies to prevent affiliate abuses.

- Repeal PURPA's mandatory purchase requirements, but only if it is replaced with provisions that remove disincentives for renewables or make their place in the market less sure. Such provisions should include clarification of energy imbalance rules for intermittent generation; interconnection rules for distributed generation; interconnection rules for combined heat and power facilities; and standards to accommodate net metering of renewable resources. Legislation must also develop a market incentive structure to encourage the development of renewable resources.

- Require that sellers of electricity provide adequate information to customers to allow them to make reasonable choices, including information about prices, alternatives, and environmental characteristics of the generation being sold, to the extent practicable. The Federal Trade Commission should also be directed to develop rules to prevent such unfair trade practices as slamming and cramming, and inappropriate disclosure of consumer information.

- Provide for the continuation of programs that traditionally have been borne by utilities through a Public Benefits Fund. The fund should provide support for such programs as low income assistance, research and development, efficiency and conservation investment, renewable resource investment, universal service, and other public good programs that are being left behind by the transition to a competitive industry.

Tax Provisions

Certain provisions of the tax code create a disincentive for participants in the market to engage in certain of the structural changes that are necessary. These provisions should be repealed. The tax code should be amended to allow utilities to spin transmission assets off into separate corporations and to remove tax restrictions on participation by public power utilities and cooperative utilities. While such provisions are not jurisdictional to this Committee, they represent an essential component of a functional electricity policy and should be pursued through the committees of jurisdiction.